

1. OVERVIEW OF THE NASA RESEARCH ANNOUNCEMENT (NRA)

1.1 General Background

In fulfillment of the National Aeronautics and Space Act of 1958, as amended, (accessible on the World Wide Web at <http://www.hq.nasa.gov/office/pao/History/amendact.html>), NASA endeavors to sponsor the highest quality research and development of the newest technologies related to the space and aeronautical sciences. Therefore, NASA solicits proposals by issuing Broad Agency Announcements of several different types for the particular targeted objectives sought by each program. This *OSS Guidebook* specifically discusses the policies and procedures of the Broad Agency Announcement known as the NASA Research Announcement (NRA) issued by the Office of Space Science in 2001.

A key feature that distinguishes research sponsored by NASA is that it must be relevant to NASA's programs, be of the highest intrinsic science and technical merits, and be affordable and realistic in cost. Therefore, proposals that respond to a specific NRA are called "solicited proposals," of which NASA receives and processes several thousand each year submitted in response to 50 or more different research solicitations. Responsible and timely handling of these proposals is crucial for the integrity and efficiency of the review and funding process. The standards set forth in this *OSS Guidebook* not only facilitate this process but also promote the highest level of professionalism by NASA for handling and reviewing of proposals. Therefore, potential proposers are urged to read this *OSS Guidebook* carefully and to adhere to the directives specific to each NRA of interest in order to submit a valid (i.e., "responsive") proposal.

In general, this *Guidebook* supplements the material given in its Appendix B, entitled "Instructions For Responding To NASA Research Announcements," which reproduces NASA Federal Acquisition Regulations (FAR) Supplement (NFS) 1852.235-72 (see Appendix A for further reference). Where appropriate in this *Guidebook* (especially in Section 2 below), cross reference to Appendix B is provided in brackets (for example, "[Appendix B, part (a)]"). In the case of any conflict, the provisions of the NFS, or as specifically noted in the NRA itself, take precedence over those in this *Guidebook*.

The funding mechanisms used by NASA for research selected through a NRA are grants, cooperative agreements, contracts, interagency agreements, and NASA's own internal processes for funding activities at its Centers and the Jet Propulsion Laboratory (JPL):

- Grants and cooperative agreements with nonprofit organizations are managed by a NASA Grant Officer following the policies set forth in the "Grant And Cooperative Agreement Handbook" (see also Appendix A for access information).

- Cooperative agreements with for-profit entities may be managed by a Contracting Officer or Grant Officer pursuant to the policies set forth in the “Grant and Cooperative Agreement Handbook.”
- Contracts with either non-profit or for-profit organizations are managed by a NASA Contracting Officer following the policies in the FAR and NFS (see Appendix A for access information) regardless of the type of organization.
- Interagency agreements for the transfer of Federal funds are arranged by NASA management following currently applicable policies and procedures.
- Research and Technology Operating Plans (RTOP’s) are used for the funding of research tasks at NASA Centers and JPL and are administered from NASA Headquarters.

For conciseness, the term “award” will be used in this *Guidebook* to mean any of these funding mechanisms, and similarly, “Award Officer” will mean a NASA Grant Officer, a NASA Contracting Officer, or an appropriate NASA HQ Program Manager. In all cases, only the Award Officer has binding authority for the Government funding allocated to a recipient. See Appendix D for more details about Awards and Continuing Support.

1.2 Overview Description of the Processes

1.2.1 Writing, Announcing, and Releasing a NRA

NASA OSS NRA’s, regardless of their objectives, will be patterned on a standard format that, at a minimum, includes:

- A short (two to three page) “Summary of Solicitation” that describes the program and summarizes pertinent information for the NRA, is signed by the responsible NASA OSS program official, and provides any additions or amendments to the standard guidance and/or formats given in this *Guidebook* for the preparation and submission of proposals; and
- An appendix, entitled “Description of Program Opportunity,” that describes in detail the objectives for which proposals are being solicited by that particular NRA.

Pursuant to Federal statute, all NRA's must be synopsisized in the Commerce Business Daily (CBD) 15 calendar days prior to its release. If an NRA expressly precludes the award of a contract as a funding instrument, posting in the CBD is discretionary but is usually done to ensure notification of the solicitation to the broadest possible audience. As a favor to the interested members of the science, technical, and educational research communities, NASA also provides direct notification of the intended release of all program announcements of any type through Internet-based or postal mail services described in the Summary of Relevant Information above in this *Guidebook*.

Announcements may also be accessed through the CBDNet Internet site at <http://cbdnet.gpo.gov/> or by accessing NASA's Acquisition Internet Service (NAIS) at <http://procurement.nasa.gov/>. Shown below is sample text for the notice for these venues.

NASA RESEARCH ANNOUNCEMENT (NRA) 05-OSS-50, "SPACE SCIENCE SATELLITE (SPASCI-SAT) RESEARCH PROGRAM"

Release Date: June 6, 2005

Proposal Due Date: September 5, 2005

The National Aeronautics and Space Administration (NASA), Office of Space Science, solicits proposals for basic research related to the science and technology objectives of the Space Science Satellite (SPASCISAT) that was launched February 29, 1999. Investigators may propose to analyze SPASCISAT data either by themselves or in conjunction with correlative space or ground-based data, or to study the science-related technologies tested by the unique hardware on this mission. The NRA provides a detailed description of science objectives and guidance for proposal preparation, and it will be available on its release date at World Wide Web URL address <http://research.hq.nasa.gov/>. Further information about this solicitation is available from Dr. program officer, Office of Space Science, Code SR, National Aeronautics and Space Administration, Washington, DC 20546-0001 (202-358-xxxx; FAX: 202-358-xxxx; E-mail: <program.officer@hq.nasa.gov>). Participation in this program is open to all categories of domestic and foreign organizations, industry, educational institutions, nonprofit organizations, NASA Centers, and other Government agencies. This notice constitutes a NASA Research Announcement as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2).

Each NRA may also be found on its date of release by opening "Research Opportunities" on the home page of its sponsoring NASA Enterprise. Generally, advance notices of future NRA's are found at the same location with a "TBD" release date. Notification of NRA's may also appear in various professional publications that serve specific science disciplines, engineering fields, or educational areas, and/or in a variety of commercial publications that report news concerning NASA's programs. However, since such notifications may not appear until several weeks after the actual release dates, those interested in NASA research opportunities are urged to subscribe to the relevant NASA's E-mail notification service(s), to check the relevant NASA home page(s), and/or to check the NAIS and CBDNet Internet sites. However, note that NASA is not responsible for inadvertently failing to provide E-mail notification of an upcoming NRA.

1.2.2 Proposal Content and Submission

Chapters 2 and 3 of this *OSS Guidebook* provides detailed information about the proposal preparation and submission processes that all OSS NRA's will use in 2001 (unless specifically amended in the signed Summary of Solicitation of the NRA itself).

However, while NASA personnel are pleased to discuss general program objectives with prospective proposers, they may not provide specific advice on budgetary or technical issues beyond those published in the NRA that would give an unfair competitive advantage, for example, specific topics of interest or budget levels, unless this same information is openly available to all interested proposers.

As a general rule, in order to be considered complete and, therefore, competitive, proposals submitted in response to a NRA should provide at least the following information:

- a detailed description of the proposed research objective(s) and its(their) significance to its field of endeavor;
- the suitability of the methods proposed for carrying out the proposed investigation;
- significance of the proposed work as it relates to the objectives specifically stated in the NRA and to NASA in general;
- the qualifications of the proposing investigator(s) and their institution(s); and
- the amount of and justification for the requested funding.

NASA must receive the required number of printed copies of the proposals at the mailing address by the proposal deadline that will be given in each NRA (also see Section 3.2 in this *Guidebook* for the policy on late proposals). In addition, some NRA's may specify that an electronic copy of the proposal also be submitted, either through the World Wide Web or by means of a specified electronic storage medium.

1.2.3 Proposal Review and Selection

To be competitive for selection, proposals must fully satisfy the evaluation criteria as judged through review by qualified peers of the proposer and by programmatic evaluation for cost and relevance by NASA (see further details in Appendix C of this *Guidebook*). NASA will begin this evaluation process as soon as possible after the deadline for proposal submission. At a minimum, the evaluation criteria against which the proposals will be judged will be those listed in Section 2 of Appendix C, although these may be supplemented by specific criteria given in the NRA itself. NASA always uses evaluations by appropriately qualified peers of the proposer who are knowledgeable though not necessarily specialists in the objective(s) solicited by the NRA. Experience has consistently shown that the characteristics of successful proposals are that they are technically meritorious, logical, complete, convincing, easily read, and responsive to and affordable by advertised NASA program.

Following peer evaluation, the cognizant NRA program officer will evaluate the competitively rated proposals against the programmatic objectives and financial limitations stated in the NRA. The program officer then presents a recommendation for selection based on the entirety of these factors to the NASA Selecting Official identified in the NRA. The Selecting Official will select for funding those proposals deemed

worthy as judged against all of the evaluation criteria, the objectives of the NRA, and the available financial resources.

Following selection, each proposer will be notified of the disposition of his/her proposal and provided with a debriefing to explain that decision. Those proposers who are selected will be advised that their institutions will be contacted by the responsible NASA Procurement Office to arrange for implementation of an appropriate award. It is important to note that until an award is made, there is no guarantee that the recommended financial resources will be available, and that awards are made to the proposing institution and not directly to the Principal Investigator. Appendix D provides ancillary information about how NASA typically implements awards for the proposals selected through its NRA's.

1.3 Unsolicited Proposals

Unsolicited proposals are submitted to NASA on the initiative of the applicant rather than in response to a NRA (see Appendix A for reference to further information). However, since funding resources are rarely available outside of NASA's formally defined programs, anyone considering submitting an unsolicited proposal is strongly advised to consult with an appropriate NASA program officer before preparing and submitting such a proposal. By statute the information a program officer may provide in discussing the development of an unsolicited proposal is limited to the general need for the type of effort contemplated for proposal and, as appropriate, to providing contacts with other Agency personnel for the limited purpose of obtaining an understanding of the Agency mission and responsibilities relative to the type of effort contemplated.

An unsolicited proposal received by NASA is first evaluated to ascertain if it is relevant to NASA's interests; if it is not relevant, it will be handled as technical correspondence and returned without review. If it is relevant, it will be assigned to the most appropriate NASA Program Office under cover of a copy of a letter informing the proposer of that assignment. For an unsolicited proposal that falls within the domain of a current NASA program or interest, the proposal will be further assessed to determine if it:

- proposes a specific, unique or innovative project with sufficient technical and cost information to permit its meaningful evaluation;
- is signed by an official authorized to commit the submitting organization to carrying out the proposed effort if it is selected;
- does not offer to perform standard services, nor has been prepared under or as a result of Government (NASA) supervision or request;
- is not appropriate for submission to a formal NASA solicitation that is either already open or planned for release in the near future through which the proposal could be competed with other similar proposals*; and
- does not request a level of funding beyond that which could be accommodated by uncommitted resources should the proposal be found to be of sufficient merit.

*Note: An unsolicited proposal identified as being within the scope of an open program announcement, or one that is soon to be released, may be evaluated as a response to that

announcement providing that this action does not place the proposal as written at a competitive disadvantage as based on the requirements for that program. If this action would result in a competitive disadvantage, the applicant will be given the opportunity to amend the proposal to ensure compliance with applicable proposal preparation instructions.

If an unsolicited proposal fails to meet any of these guidelines, NASA reserves the right to handle it as technical correspondence and return it without review. If the proposal is determined to be valid, NASA will conduct an appropriate review (at a minimum, by NASA personnel only; at a maximum, by external mail and/or panel review), after which it will be submitted to an appropriate NASA Selection Official for selection or rejection (see further details in Appendix C).

1.4 Proposal Institutions and Personnel

1.4.1 Types of Proposing Institutions

NASA accepts proposals in response to its NRA's from all types of U.S. and non-U.S. institutions acting on behalf of the proposer(s). As an aid to NASA to determine the appropriate type of award to be used should a proposal be selected, one of the following institutional categories should be indicated at the appropriate line on the proposal's Cover Page (see Section 2.3.1 below):

- Educational Institution – A university or two- and four-year college (including U.S. community colleges) accredited to confer degrees beyond that of the K-12 grade levels (all such institutions are considered nonprofit).
- Nonprofit, Nonacademic Organization – A private or Government supported research laboratory, university consortium, museum, observatory, professional society, educational organization, or similar institution that directly supports advanced research activities but whose principal charter is not for the training of students.
- Commercial Organization – An organization of any size that operates for profit or fee, and that has appropriate capabilities and interests to conduct the proposed effort.
- NASA Center – Any NASA field Center, and the Jet Propulsion Laboratory.
- Other Federal Agency – Any non-NASA, U.S. Federal Executive agency or Federally Funded Research and Development Center (FFRDC) sponsored by a Federal agency.
- Unaffiliated Individual – Any person residing in the U.S., whether a U.S. citizen or resident alien, who has the capabilities and access to facilities for carrying out the proposed project and who, if selected, agrees to fiscal arrangements that NASA determines as sufficient to ensure responsible management of appropriated Federal funds.
- Non U.S. Organizations – Institutions outside the U.S. that propose on the basis of a policy of no-exchange-of-funds; consult Section (I), Appendix B, for specific details (Note: some NRA's may be issued jointly with a non U.S. institution, e.g., those concerning guest observing programs for jointly sponsored programs, that will contain additional special guidelines for non U.S. participants). Also see Section 2.3.10, subparts (vii) and (viii) in this *Guidebook* for special instructions for budgets of proposals from non-U.S. organizations that involve U.S. personnel for whom NASA support is requested.

1.4.2 Proposal Personnel

Every proposal submitted to a NRA must identify every person and their institution of employment who is expected to play a significant role in the execution of the proposed effort if it is selected by NASA (see Section 2.3.3) using one of the following six categories of personnel (Note: other than the Principal Investigator, some NRA's may specifically disallow some of these categories):

Principal Investigator (PI) – Every proposal must identify a single PI who is solely responsible for the quality and direction of the proposed research and for the proper use of awarded funds regardless of whether or not he/she receives support through the award. The proposing institution has the authority both for designating the PI and for replacing him/her for cause, although any change in the PI for any reason requires NASA approval. NASA does not accept the designation of anyone as a "Co-Principal Investigator." The only exception to this requirement may arise when a proposal includes participation from a non-U.S. organization and is discussed below under Co-Investigators.

NASA strongly encourages Principal Investigators to specify only the most critically important personnel to aid in the execution of their proposals. Such other personnel identified in a proposal are to be designated in one of the following categories:

Co-Investigator (Co-I) – A Co-I is a member of the proposal's investigation team who may hold a full-time or limited-term appointment, and who is critical for the conduct of the investigation by contributing unique expertise and/or capabilities needed for its successful completion. A Co-I must have a well-defined role in the proposed investigation, serves under the direction of the PI, and may or may not receive funding through the award. Only an individual who has formally agreed to the role may participate as a Co-I even if his/her participation is at no cost to the proposal. Each Co-I must demonstrate his/her commitment to participate in the proposed investigation by way of a brief, signed statement from him/her even if they are from the same institution as the PI (see Section 2.3.9).

There are three subcategories of Co-I's that a proposal may additionally use in its Scientific/Technical/Management section (see Section 2.3.4) as appropriate for the following unique circumstances:

- A Co-I may be additionally designated as the "Science PI" for those cases where the proposing institution does not permit that individual to formally serve as the PI as defined above (e.g., non tenured faculty or postdoctoral personnel). In such a case, the Science PI will be understood by NASA to be in charge of the scientific direction of the proposed work, although the formally designated PI is still held responsible for the overall direction of the effort and use of funds.
- A Co-I at an institution other than that of the PI who is making a major contribution to the proposal and who serves as the point of contact at that Co-I institution, may be additionally designated as the "Institutional PI" for that Co-I's

institution. Note: If specifically stated in the NRA, NASA may elect to provide an award directly to that Co-I institution with the Institutional PI serving as the “PI” at his/her institution.

- A Co-I from a non-U.S. institution may be additionally designated as a “Co-Principal Investigator” (Co-PI) should such a designation fulfill administrative requirements of that Co-I’s institution and/or for the procurement of funding by that Co-I from his/her sponsoring funding authority (see also Appendix B, Section (1)).

Postdoctoral Associate – A Postdoctoral Associate holds a Ph.D. or equivalent degree, is usually employed full-time at the proposing institution, is identified as a major participant (but not explicitly a Co-I) for the execution of the proposed research, and is appropriately remunerated for that effort through the proposal budget. Such a Postdoctoral Associate should be identified by name if known by the time the proposal is submitted, or may be identified only by designated function in those cases where recruitment depends on the successful selection of the proposal.

Other Professional – This category is appropriate for personnel who support a proposal in a critical manner, e.g., a consulting staff scientist or a key Project Engineer and/or Manager, but who is not identified as a Co-I or Postdoctoral Associate.

Graduate Student – A proposal may incorporate a student working for a postgraduate degree who will be paid through the proposal’s budget to support the proposed research under direction of the PI or one of the designated Co-I’s. Such a student may be identified by name if known when the proposal is submitted or only by designated function in those cases where his/her recruitment depends on the successful selection of the proposal.

Consultant – A Consultant is an individual who is critical to the completion of the proposal and who is to be paid a fee for their services, which may include travel in order to consult with the PI at his/her home institution. Note that NASA’s *Budget Summary* form that must be submitted as part of every proposal specifically requires the identification and justification of all Consultants (see Section 4 of Appendix E).

Collaborator – A Collaborator is an individual who is less critical to the proposal than a Co-I but who is committed to provide a focused but unfunded contribution to a specific task (Note: if funding is requested in the proposal, such a person must be identified in one of the other categories above).

1.5 Proposals Submitted to Successor NRA’s [Appendix B, Paragraph (d)]

Holders of existing research awards frequently propose to successor NRA’s issued for the same program objectives in order to extend an on-going research activity to its next logical step. However, in order to ensure equitable treatment of all submitted proposals, NASA does not extend any special consideration to such proposals in terms of

preferential handling, review, or priority for selection. Therefore, NASA chooses not to use the name "renewal proposal." Instead, all proposals in response to a NRA are considered new regardless of their previous history of NASA funding and will be reviewed on an equal basis with all other proposals submitted to the NRA.

Nevertheless, such successor proposals are welcome and encouraged, and are expected to indicate the relevant achievements made during the course of the previous award(s) in its *Scientific/Technical/Management Section* (see Section 2.3.4). In addition, the standard form for the proposal *Cover Page* (see Section 2.3.1) provides a space for entering the NASA grant or contract number of any existing award that is a logical predecessor to the successor proposal that is being submitted. If the successor proposal is selected, it is NASA's preference to fund it through a new award; however, NASA reserves the right to fund the proposal by issuing an amendment to the existing award. In either case, the starting date of the successor award will follow the expiration date of the preceding award

1.6 Proposals Involving Personnel from Non-U.S. Institutions

NASA welcomes proposals from U.S. institutions that include participants employed by non-U.S. institutions that are compliant with the policy stated in Section (I) of Appendix B and with the language below concerning Export Control. It is critical for the sponsoring non-U.S. institution or agency to certify that support for their designated personnel will be forthcoming should the proposal be selected by NASA for support. Such personnel may fill any of the roles defined in Section 1.4.2. Further details concerning budgets of such proposals are given in Section 2.3.10, subparts (vii) and (viii) of this Guidebook.

Export Control Guidelines Applicable to Foreign Proposals and Proposals (Including Foreign Participation)

Foreign proposals and proposals including foreign participation must include a section discussing compliance with U.S. export laws and regulations, e.g., 22 CFR Parts 120-130 and 15 CFR Parts 730-774, as applicable to the circumstances surrounding the particular foreign participation. The discussion must describe in detail the proposed foreign participation and is to include, but not be limited to, whether or not the foreign participation may require the prospective proposer to obtain the prior approval of the Department of State or the Department of Commerce via a technical assistance agreement or an export license, or whether a license exemption/exception may apply. If prior approvals via licenses are necessary, discuss whether the license has been applied for or if not, the projected timing of the application and any implications for the schedule. Information regarding U.S. export regulations is available at <http://www.pmdtc.org> and <http://www.bxa.doc.gov>. Proposers are advised that under U.S. law and regulations, spacecraft and their specifically designed, modified, or configured systems, components, and parts are generally considered "Defense Articles" on the United States Munitions List and subject to the provisions of the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120-130.

1.7 Helpful Guidelines for Proposal Preparation

Extensive experience in the review of proposals submitted in response to a wide variety of program announcements has shown that the following guidelines are valuable in helping to ensure the submission of a valid, competitive proposal to NASA:

- Follow the instructions in this *Guidebook* and the specific NRA of interest with care in order to respond to the opportunity as published, since NASA is legally obligated to review and select proposals in accordance with their published provisions.
- Clearly state the objectives of the proposal and its implementation plan so that both NASA and the peer reviewers can easily understand what is proposed to be done and how it will be accomplished.
- NASA is a program-oriented Agency and is obligated to sponsor only research that supports its goals and objectives as stated in its strategic plans. Therefore, the proposal should clearly address the advertised objectives as stated in the NRA.
- If proposing innovative work in a new or emerging field strive to strike a judicious balance between the provision of tutorial material and the description of the new activities being proposed.
- Provide appropriate recognition of preceding accomplishments and demonstrate command of the literature by citing key recent, significant publications in the field, and show how the proposed activity will extend and build on what has already been done (whether by the proposer or by others).
- Proof read the proposal carefully before submission, and, if at all possible, ask a colleague to critically review it for completeness and comprehensibility; strive for a quality and clarity of text comparable to a submission to a peer-reviewed journal.
- Keep the proposal text as short as possible consistent with completeness and understandability, and use legible printer fonts and illustrations, and a clear and simple organization of the text.
- Propose fresh, new ideas rather than slight modifications of proposals that have been rejected in previous competitions (Note: simply revising a proposal to meet deficiencies identified in a previous review does not necessarily guarantee a higher rating, since reviewers are almost never the same, NASA priorities evolve, and fields of endeavor mature, even over a period as short as a year).
- Include all requested proposal information in its specified order and in compliance with stated page limits.
- Strive for realism as well as adequacy of the requested budget, and provide all the details necessary to justify and understand the proposed costs (Note: a relatively inexpensive proposal does not have a competitive advantage; likewise, a proposal of especially high merit is not necessarily rejected only because it requests a budget beyond the norm advertised for the program).

2. PROPOSAL PREPARATION AND ORGANIZATION

2.1 Overview

It is expected that this Guidebook will be updated as required. Therefore, each NRA will explicitly identify the edition date of this Guidebook that should be followed to ensure the submission of a valid proposal, and this material will not be repeated in the individual NRA's. Any deviations from the Guidebook will be clearly identified in the NRA but will only be introduced if critically needed for the unique needs of the program being solicited.

Although examples of the required prefatory pages and budget forms needed for most NRA proposals are collected in Appendix E, all NRA's now specify an address on the World Wide Web for the direct electronic submission of a combined *Cover Page/Proposal Summary* and *Budget Summary*. Printed copies of these completed electronic forms are then submitted with the hard copies of the proposal to NASA (see further details below). Finally, some NRA's may require additional prefatory information that augments that listed for the standard Cover Page/Proposal Summary (see Appendix E); in such cases, this information will be clearly indicated on the Web form.

It is NASA policy that proposals should not contain security classified material (see Appendix B, Part (c) (9)). However, should the project proposed require access to classified information, or should the result of the project generate such material, the proposer shall comply with all Government security regulations.

2.2 Standard Proposal Formats

Unless otherwise specified in the NRA of interest, the standard, default formats for a proposal submitted in response to all NRA's are:

- Typewritten English-language text using an easily read font (at least 12-point having no more than 15 characters per inch); on white 8.5x11 inch paper (or A4 stock for non-U.S. proposals) with at least 1 inch (2.5 cm) margins on all sides;
- Bound only with metal staples (to facilitate recycling; i.e., no loose leaf binders or cardboard, plastic, or permanent covers);
- An easily disassembled, one-sided original copy (to enable NASA to make additional copies if needed);
- Double-sided printing for proposal copies (preferred but not required);
- Use of fold out pages, colored illustrations, and/or photographs only as needed for the display of unique and critically important proposal data (Note: if such formats are used, all copies of proposals must also include the same materials);
- No proposal material submitted solely on any type of electronic media, nor reference to sites on the World Wide Web for information or material needed to either complete or review the proposal (i.e., the printed copy of the proposal must be complete in itself);
- Use of only metric and standard discipline-unique units; and

- Adherence to the fixed page limits given in this Guidebook for all sections of the proposal (see Section 2.3 below), unless otherwise specified in the NRA.

2.3 Proposal Contents

Unless otherwise specified, a proposal in response to a NRA should be assembled with the following items in the order listed and using the titles as given. Proposals that omit required materials may be returned without review, although in some cases a NRA may specify exceptions, especially to the length of the *Scientific/Technical/Management Section*. This list is followed by a discussion of each individual subsection of a proposal that is also cross-referenced to the corresponding subpart in the standard NASA guidance for proposal contained in Appendix B of this Guidebook.

CONSTITUENT PARTS OF A PROPOSAL (in order of assembly)	PAGE LIMITS
• <i>Cover Page/Proposal Summary</i>	As printed from Web
• <i>Table Of Contents</i>	1
• <i>Summary Of Personnel and Work Efforts</i>	1
• <i>Scientific/Technical/Management Section</i>	15*
• <i>References</i>	As required
• <i>Facilities and Equipment</i> (as needed and appropriate)	2
• <i>Curriculum Vitae:</i> for the PI:	3
for each Co-I:	1
• <i>Current and Pending Support</i>	As required
• <i>Co-I and/or Collaborator Letter(s) of Commitment</i>	As required
• <i>Budget Summary</i> (use NASA Web format)	As required
• <i>Budget Details</i> (including Proposing Institution Budget)	As required
• <i>Special Notifications and/or Certifications</i>	As required
• <i>Reprint(s)/Preprint(s)</i> (optional)	Not applicable

* including illustrations, tables, and figures (unless otherwise specified in NRA), and where each side of a sheet containing text or illustration counts as a page and each "n-page" fold-out counts as n-pages.

2.3.1 *Cover Page/Proposal Summary* [Appendix B, Part (c)(1) & (c)(3)]

All proposals must be prefaced by the integrated *Cover Page/Proposal Summary* that is produced by electronically entering the requested information through the World Wide Web site designated in the NRA. (Note: a telephone and/or E-mail point of contact is always provided in the NRA for any proposer who experiences difficulty in using the specified Web site or who cannot access the Web). This item is then submitted electronically and also printed in hard copy for authorizing original signatures of the PI and the Institutional Official. This signed copy must be submitted with the original copy

of the proposal . In addition, reproductions of the signed *Cover Page/Proposal Summary* are used to preface the required printed copies of the proposal.

At a minimum the following information will be requested to complete the *Cover Page* although additional programmatic information may also be requested on the form as specified in the NRA:

- The alpha-numeric identifier and name of the NRA (Note: these items will already be included on the electronic form through selection from a menu on the Web site).
- The full legal name and address of the proposing organization, including the specific division or campus identification if part of a larger organization.
- The designation of the type of proposing institution (using the definitions in Section 1.4.1).
- Full institutional physical mailing address, telephone and facsimile numbers, and E-mail address for the following individuals/offices:
 - (i) The Principal Investigator (Note: the hard copy print-out of the electronic form will also provide a space for an original signature and date).
 - (ii) All Co-Investigator(s) who are identified by function in the proposal (see Section 1.4.2 and their organizational affiliation(s).
 - (iii) Office of Sponsored Programs at the proposing institution.
 - (iv) Name and Title of the Authorizing Institutional Official (Note: the hard copy print-out of the electronic form will provide a space for an original signature and date).
- An abbreviated title (limit of 50 characters) of the proposed investigation.
- The full title of the proposed investigation (may be any length or the same as the abbreviated title) that is intelligible to a scientifically literate reader and suitable for use in the public press).
- The Award Number of any existing NASA award for which the newly proposed work is submitted as a successor activity (see Section 1.5).
- The proposed costs both by 12-month periods and for the total proposed period of performance.
- The date of proposal submission, desired starting date of the period of performance (at least 200 days after the proposal due date unless otherwise specified in the NRA), and total duration of the project (in years).

A block of space, limited to 2500 characters including spaces (about half a page using the default formats for text) is provided in the Web site for a self-contained *Proposal Summary* that is to include the following key information:

- A description of the key, central objectives of the proposal in terms understandable to a nonspecialist;
- A concise statement of the methods/techniques proposed to accomplish the stated research objectives; and
- A statement of the perceived significance of the proposed work to the objectives of the NRA and to NASA interests and programs in general.

Special conditions and instructions concerning the *Cover Page/Proposal Summary*:

- The authorizing institutional signature also serves to verify that the proposing institution has read and is in compliance all Federally required Certifications (Note: for reference only all currently required Certifications are printed in full in Appendix E; however, note that the NRA may specify other unique certifications that must be submitted).
- Electronic submission of only a *Cover Page/Proposal Summary* does not satisfy the deadline for proposal submission; the required number of copies of the proposal, one with original signatures, must be received at the indicated address by close of business (5 PM Eastern Time) on the proposal due date (Note: see Section (g) of Appendix B as well as Section 3.2, both in this *Guidebook*, for NASA policy on late proposals).
- NASA intends to publish the proposal's full title, the PI's name and institution, and the Proposal Summary of every selected investigation in a publicly accessible data base; therefore, the *Proposal Summary* should not include proprietary information that would preclude its unrestricted release (see also Appendix B, (a)(2) and (c)(2)).
- Physical changes (such as whiteout or strikethrough) to the printed *Cover Page/Proposal Summary* that is submitted with the proposal are not permitted. Any needed changes may only be made by editing the electronic submission using the instructions of the Web page, after which the revised *Cover Page/Proposal Summary* is then printed for purposes of securing the necessary signatures (Note: for this reason, it is strongly recommended that this item be produced from the specified Web site well in advance of the proposal due date).

2.3.2 *Table of Contents*

The one-page *Table of Contents* should provide a guide to the organization and contents of the proposal. This item may also incorporate customized formats and material of the proposer's own choosing, e.g., identification of the submitting institution through use of letterhead stationary, logos, etc.

2.3.3 *Summary of Personnel and Work Efforts*

The item must provide a summary list, in simple tabular form, of the names and intended work commitments of the PI and of every Co-I in the proposed investigation for whom salary support is requested in units of intended time commitment (rounded to the nearest 0.01 of a nominal Work Year of 1880 hr.) and for each year of the proposed period of performance.

2.3.4 *Scientific/Technical/Management Section*

[Appendix B, Parts (c)(4), (c)(5), and in-part (c)(6)]

This section is the main body of the proposal and must cover the following topics in the order given, all within the specified page limit (the default limit is 15 pages unless otherwise specified):

- The objectives and expected significance of the proposed research, especially as related to the objectives given in the NRA;
- The technical approach and methodology to be employed in conducting the proposed research. Include a description of any hardware proposed to be built in order to carry out the research, as well as any special facilities of the proposing institution(s) and/or capabilities of the proposer(s) that would be used for carrying out the work. Notes: (i) see also the Facilities and Equipment section below for the description of critical equipment needed for carrying out the proposed research; (ii) see Section 2.3.10 (iv) for further discussion of costing details needed for proposals that may propose significant hardware, software, and/or ground systems development, and, as may be specifically allowed by a specific NRA, proposals for flight spacecraft and instruments);
- The perceived impact of the proposed work to the state of knowledge in the field and, if the proposal is offered as a direct successor to an existing NASA award, how the proposed work is expected to build on and otherwise extend previous accomplishments;
- The relevance of the proposed work to past, present, and/or future NASA programs and interests or to the specific objectives given in the NRA;
- A general plan of work, including anticipated key milestones for accomplishments, the management structure for the proposal personnel, any substantial collaboration(s) and/or use of consultant(s) that is(are) proposed to complete the investigation; and a description of the expected contribution to the proposed effort by the PI and each person as identified in one of the additional categories in Section 1.4.2, regardless of whether or not they derive support from the proposed budget.

The *Scientific/Technical/Management Section* may contain illustrations that amplify and demonstrate key points of the proposal (including milestone schedules, as appropriate). Illustrations and figures must be of an easily-viewed size, and have self-contained captions that do not contain critical information not provided elsewhere in the proposal. Conversely, the inclusion of proprietary or confidential information in a proposal should be avoided if possible since in an extreme case it could hinder if not preclude the ability of NASA to properly evaluate the material. However, if such material must be submitted, adherence to the policy in Appendix B, Part (c)(9) is required.

2.3.5 *References*

All citations given in the *Scientific/Technical/Management Section* must be included in a list of references using easily understood or standard abbreviations for journals. It is

preferred but not required that these references include the full title of the cited paper or book.

2.3.6 *Facilities and Equipment*

[Appendix B, Part (c)(7)]

As appropriate for the proposed scope of work, this section should describe any major facilities (including any U.S. Government-owned facilities) and/or major test or experiment equipment that is critical for carrying out the proposed project, whether it is already available or would need to be purchased. Before requesting a major item of capital equipment, the proposer should determine if sharing or loan of equipment already within the organization is a feasible alternative. The proposal should state if such arrangements cannot be made. The need for items that typically can be used for research and non-research purposes should be explained. Proposed costs for purchased facilities, tooling or equipment must be entered in the proposal Budget Summary and described in the Budget Details.

2.3.7 *Curriculum Vitae*

[Appendix B: Part (c)(6)]

The Principal Investigator must include a curriculum vitae (not to exceed three pages) that includes his/her professional experiences and positions, and a bibliography of recent publications, especially those relevant to the proposed investigation. A one-page vitae for each Co-Investigator must also be included (Note: any Co-I serving in one of the three special Co-I categories defined in Section 1.4.2 may use the same three page limit as for the PI).

2.3.8 *Current and Pending Support*

[Appendix B, Part (c)(10)]

Information must be provided for all ongoing and pending projects and proposals that involve the proposing PI and any Co-I's who are proposed to perform a significant share of the proposed work or to receive any financial support through the proposal. For each such individual, and for each of the following two categories of awards that may exist at the time of the proposal submission deadline, namely,

A. Current Awards (for any of the period that overlaps with the submitted proposal), and

B. Pending Awards (including the proposal being submitted to NASA),

the following information must be provided:

- Title of award or project title;
- Program name (if appropriate) and sponsoring agency or institution, including a point of contact with his/her telephone number and E-mail address;
- Performance and budget; and
- Commitment by PI (or Co-I) in terms of a fraction of a full time Work Year.

For pending research proposals, the proposing PI must notify the NASA program officer identified for the NRA immediately of any successful proposals that are awarded anytime after the proposal Due Date and until the time that NASA's selections are announced.

2.3.9 *Statement(s) of Commitment from Proposal Personnel*

Every Co-Investigator and Collaborator (see definitions in Section 1.4.2) identified as a participant in the proposal's Scientific/Technical/Management Section must submit a brief, signed letter of commitment that acknowledges his/her participation. In the case of more than one Co-I or Collaborator, a single letter signed by all participants may be submitted. In any case, each letter must be addressed to the PI, may be a facsimile or E-mail (the latter must have sufficient information to identify the sender), and is required even if the Co-I or Collaborator is from the PI's institution. An example of a letter follows:

"I(we) acknowledge that I(we) am(are) identified by name as Co-Investigator(s) [or Collaborator(s)] to the investigation, entitled <name of proposal>, that is submitted by <name of Principal Investigator> to the NASA Research Announcement <alpha-numeric identifier>, and that I(we) intend to carry out all responsibilities identified for me(us) in this proposal. I(we) understand that the extent and justification of my(our) participation as stated in this proposal will be considered during peer review in determining in part the merits of this proposal."

2.3.10 *Budget Summary and Details* [Reference: Appendix B, Part (c)(8)]

Proposals must contain a *Budget Summary* (basic content and Instructions are given in Appendix E.4) for each year of the proposed effort starting at least 200 days after proposal submittal date (unless otherwise specified in the NRA), and filled out in accordance with the Instructions that follows it. The Web site containing the *Cover Page/Proposal Summary* contains this *Budget Summary* form, which should be downloaded, filled in, and then printed in hard-copy for submission with the hard copies of the proposal as indicated in Section 2.3 above. Note that a *Budget Summary* form must be submitted for each year of the proposed task as well as for the entire period of performance; therefore, an effort with a three-year period of performance will have four such forms. The proposer should be aware of the following important considerations:

- (i) Purchase of Personal Computers and/or Software. Note the discussion of item "2.c. Equipment" on the Budget Summary Instructions (see Appendix E.4) regarding the proposed purchase of personal computers and/or commercial software. Such items are usually considered by NASA to be general purpose equipment that must be purchased from general institutional overhead budgets and not directly from the proposal budget unless it can be demonstrated that such items are to be used uniquely and only for the proposed research. If a proposal is selected for award, failure to adequately address the provisions of the instructions for item 2.c will require that NASA contact the proposing institution for the

required information, and such activity may delay the award until the purchase is justified as a direct charge for general purpose equipment or is budgeted as an indirect expense.

(ii) Joint Proposals Involving a Mix of U.S. Government and Non Government Institutions.

(a) If a PI from any type of institution proposes to team with a Co-I from a U.S. Government institution (including NASA Centers and the Jet Propulsion Laboratory), then the institutional budget for that Government Co-I should be included in the proposal's Budget Details, and the cost for that Government Co-I should be listed on line 4, "Other Applicable Costs," of the *Budget Summary* form. If the proposal is selected, NASA will execute an inter- or intra-Agency transfer of funds, as appropriate, to cover the cost of the Government Co-I.

(b) If a PI from a U.S. Government institution (including NASA Centers and the Jet Propulsion Laboratory) proposes to team with a Co-I from a non-Government institution, the proposing Government institution must cover the Co-I costs through a subcontract for which that Government PI institution is responsible. Therefore, such non-Government Co-I costs must be entered on line 2.a, "Subcontracts," on the *Budget Summary* form.

(iii) Responsibility of the Proposing Institution to Place Subawards for Co-I's at Other Institutions. Unless specifically noted otherwise in the NRA, the proposing PI institution must subcontract the funding of all proposed Co-I's who reside at other non-Government institutions.

(iv) Requirement to Submit Budget Details. In addition to the required *Budget Summary* form that is filled out in accordance with the Instructions for Budget Summary and submitted in hard copy, and the proposing institution must append at the end of the proposal sufficient details in narrative form to provide a full understanding of the proposed budget. The proposing institution may also append the proposed budget in the format of its choice. Neither the budget details nor an institutional budget have page limits.

An important requirement for Budget Details applies to proposals that, as may be allowed by the NRA interest, include significant hardware, software, and/or ground systems development, and/or flight spacecraft and instruments (e.g., for suborbital rocket or balloon payloads, or experiments for flight on the Shuttle or Space Station). In such cases the Budget Details must provide sufficient technical parameters (e.g., mass properties, power requirements, data rates, etc.) to allow NASA to perform independent cost model verification of the proposed costs.

(v) Full-Cost Accounting at NASA Centers. NASA is expected to be operating on the basis of full cost accounting as soon as possible, including all Civil Service

salaries with overhead. In the interim period, proposals involving NASA employees as either a PI or as a Co-I should use the accounting method authorized at their institutions at the time proposals are due and for the entire proposed period of performance.

(vi) Unallowable Costs. The Office of Management and Budget (OMB) Circulars A-21 and A-122, and the Federal Acquisition Regulation (FAR) at 48 CFR part 31, identify certain costs that may not be included in a proposed budget. The use of appropriated funds for such purposes are unallowable, and may lead to cancellation of the award and possible criminal charges. Grant recipients should be aware of cost principles applicable to their institution as set forth in the above regulations.

(vii) Prohibition of the Use of NASA Funds for Non U.S. Research. NASA's policy welcomes the opportunity to conduct research with non-U.S. institutions on a cooperative no-exchange-of-funds basis. Although Co-I's or collaborators employed by non-U.S. institutions may be identified as part of a proposal submitted by a U.S. institution, NASA funding is not normally available for research efforts by non-U.S. institutions at any level. However, the direct purchase of supplies and/or services that do not constitute research from non-U.S. sources by U.S. award recipients is permitted. See also Section (I) of Appendix B.

(viii) Proposals from non-U.S. PI institutions that propose the funding of U.S. Co-I's. A proposal submitted by a non-U.S. institution that involves U.S. Co-I's for whom NASA funding is requested must provide the budgets for those U.S. Co-I's in compliance with all applicable provisions in this Section 2.3.10. In addition, compliance is required by the proposing non-U.S. institution with the provisions of Section (I) of Appendix B.

2.3.11 *Special Notifications and/or Certifications* [Appendix B, Part (c) (11)]

A given NRA may require proposals to include special notifications or certifications regarding the impact of research including, for example, environmental, human, or animal care provisions; conflicts of interest; or other topics as may be required by statute, Executive Order, or Government policies. Compliance with any such requirements is important to ensure submission of a complete proposal.

2.3.12 *Reprint/Preprints*

Reprints from and/or preprints for peer-reviewed publication that are considered critical to the background of a proposal may be appended. However, while there is no limit on the number of such items that may be appended, proposers should note that NASA's reviewers are instructed that they are not under any obligation to read them and that they should base their judgment of the proposal's merits on only the proposal's contents and not on the perceived quality or quantity of any appended items. Therefore, proposers are

encouraged to include only a minimum number of such items, which is also helps to minimize the costs to the Government for sending proposals to reviewers.

3. PROPOSAL SUBMISSION PROCEDURES

3.1 Notice of Intent (NOI) to Propose

To plan for and expedite the review process, and thus minimize the time required for announcement of selections, all NRA's will specify that a Notice of Intent (NOI) to propose be submitted by a given date. Although the information in a NOI is not binding on the submitter, it should be as accurate and complete as possible by its due date. An NOI will include at least the following information, although the additional special requests may also be indicated:

- Reference to the NRA by its alpha-numeric identifier (e.g., NRA 99-OSS-50);
- The name, postal and E-mail addresses, and telephone number of the Principal Investigator and, as are known by the date of submission, all Co-Investigator(s);
- A brief, descriptive title of the anticipated proposal; and
- A brief description of the primary research area(s) and objective(s) of the anticipated investigation.

This NOI is submitted through an interactive site on the World Wide Web site that will be specified in the NRA. Although it is most helpful to NASA if the NOI is submitted by the specified target date, it is better to submit late than not at all since the receipt of unanticipated proposals can significantly delay and complicate the review process. Contact the NASA program officer identified in the NRA for guidance on how to submit a late NOI.

3.2 Deadline for Submission and Late Proposals

Each NRA will prominently list the deadline for proposal submission in the Summary of Solicitation. The required number of copies of the proposal (default is 15 copies unless otherwise specified in the NRA), plus the signed original, must be received by the close of business (5 PM Eastern Time) on the proposal Due Date as specified in the NRA's Summary of Solicitation. Note that post mark or other evidence of submission for delivery in advance of or on the due date does not compensate for the late delivery of a proposal at this designated address. Delivery by any method to any other address may result in the proposal being declared late. NASA does not accept proposals sent by collect postage, nor is NASA responsible for late delivery by commercial services.

Proposers should be aware that NASA personnel are not empowered to grant "permission" to submit a late proposal. The decision to submit a late proposal is solely that of the proposer. Late proposals may be considered for review and possible selection only if they appear to offer a distinct benefit to NASA (see Appendix B, Part (g)). In this regard it is important to note that since almost every NRA receives many more high quality proposals than can be supported with the available funds, a determination of distinct benefit of a late proposal is likely to be rare.

3.3 Submission of Proposals

In order to prepare an original proposal (see Section 2.3) and the requisite number of copies, it is necessary to electronically complete and submit, and then print, the *Cover Page/Proposal Summary* form (see Section 2.3) found on the World Wide Web site specified in the NRA. A second *Budget Summary* form (see Section 2.3.10) is also found on the same Web site for downloading, but it is submitted only in hard copy (one such form for each year of the proposed effort and one for the entire proposed period of performance). The Summary of Solicitation of each NRA will prominently list a help line telephone number and/or electronic address for applicants who may have difficulty with accessing or submitting these items and the address for the delivery of proposals including a telephone number point of contact for commercial delivery.

A post card or E-mail message indicating that a proposal has been received will be sent within two weeks of the proposal deadline. Any submitters not receiving such notification in that time frame should immediately contact the program officer identified in the NRA.

Note: The submission address specified in a NRA may be at one of the NASA Centers, a commercial proposal support contractor, or a non-profit institution (whether funded primarily by NASA or otherwise). All receiving organizations are bound by the conditions of their employment policies, service contracts, or agreements with NASA to maintain strict confidentiality of the materials they handle. Furthermore, they are bound to ensure that their employees who handle proposals, or who in any way have access to information about or within proposals, do not have conflicts of interest with any of the proposers and are not in any way involved in proposing to the NRA themselves (see also Appendix C for a further discussion of conflict of interest issues).

3.4 Timeline for Review and Selection

NASA currently is committed to meeting a standard of no more than 150 days from the due date for proposals to the announcement of selections, and another 46 days after that announcement for the implementation of the award itself. Therefore, a request for funding sooner than about 200 days from the of proposal due date is unlikely to be accommodated. A proposal submitted in response to a NRA that is time-sensitive (e.g., to take advantage of a unique natural phenomena or programmatic event) may be returned if, in the opinion of the cognizant program officer, there is insufficient time for its review and processing. Alternatively, time sensitive proposals may be submitted as unsolicited proposals when the NRA selection cycle does not accommodate a time-sensitive proposal (see Section 1.3 of this *Guidebook*)

3.5 Proposal Withdrawal or Return

[Appendix B, Part (h)]

A proposal may be withdrawn by a written request signed by the proposing institution at any time for any reason, including the circumstance in which another organization has agreed to fund the proposal .

Conversely, NASA reserves the right to return a proposal without review should the proposal:

- Be clearly nonresponsive to the objectives of the NRA;
- Not meet the requirements for proposal format and organization specified in this Guidebook and the NRA itself;
- Fail to be submitted to the specified address by the proposal Due Date; and/or
- Be submitted with insufficient lead time to carry out the proposed effort.